

CLAIMS

1. Ventilation device for a high pressure turbine rotor (100) of a turbomachine, the turbine (100) being arranged on the downstream part of a combustion chamber (2) and comprising an upstream turbine disk (3) fitted with blades (4) and a downstream turbine disk (5) fitted with blades (6), said device comprising a cooling circuit fitted with injectors (36) on the upstream side of the upstream disk (3) and supplied with a cooling airflow D taken from the back of the combustion chamber (2), characterized in that said cooling circuit is arranged such that the cooling airflow D originating from the injectors (36) passes through orifices (74) formed in an upstream flange (66) of the upstream disk (3) so that it can be fixed on an upstream flange (78) of the downstream disk (5), so that this cooling airflow D circulates in the axial downstream direction between an inner reaming (48) in the upstream disk (3) and the upstream flange (78) of the downstream disk (5) so that it can be fixed on a downstream flange (79) of a high pressure compressor and so that the upstream disk (3) can be centered, said ventilation device also comprising a single labyrinth (80) fixed to one of the two turbine disks (3, 5) and being inserted between these two disks, such that the cooling airflow D is divided into a first flow F1 circulating between a downstream face of the upstream disk (3) and an upstream face of the single labyrinth (80) towards the blades (4), and into a second flow F2

circulating between an upstream face of the downstream disk (5) and a downstream face of the single labyrinth (80) towards the blades (6).

2. Device according to claim 1, characterized in
5 that the injectors (36) penetrate into a cavity (64) partially delimited by the upstream flange (66) of the upstream turbine disk (3), and by an upstream seal (32) and a downstream seal (34), this downstream seal cooperating with a secondary upstream flange (72) of the
10 upstream turbine disk (3).

3. Device according to claim 1 or to claim 2, characterized in that several orifices (86) are formed in the upstream flange (78) of the downstream turbine disk (5), so that a third flow F3 of the cooling airflow D can
15 pass through them, said third flow F3 circulating in the downstream axial direction within an annular space (88) formed between firstly the upstream flange (78) of the downstream disk (5) and an inner reaming (50) of this downstream disk (5), and secondly a spacer (9) located
20 around a rotor shaft (11) of a low pressure turbine.

4. Device according to any one of the above claims, characterized in that the single labyrinth (80) is fixed to a secondary upstream flange (82) of the downstream turbine disk (5), in which several orifices (84) are
25 formed through which the second flow F2 of the cooling airflow D can circulate towards the blades (6).